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2 **IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

3 INVENTORSHIP BADDING, John V. et al.
4 U.S. SERIAL NO.....n/a
5 PCT APPLICATION NO..... PCT/GB2004/004293
6 INTERNATIONAL FILING DATE..... 08 OCT. 2004
7 PRIORITY DATE 10 OCT. 2003
8 ART UNIT n/a
9 ATTORNEY DOCKET NO. SO03-P05
10

11 **TITLE: SYNTHESIS OF GERMANIUM SULPHIDE AND RELATED
12 COMPOUNDS**

13 **INFORMATION DISCLOSURE STATEMENT**

14 **PURSUANT TO 37 C.F.R. §§ 1.56, 1.97 AND 1.98**

15 The application being filed herewith is a U.S. National Stage filing based on
16 PCT/GB2004/004293. In compliance with 37 C.F.R. §§ 1.56, 1.97 and 1.98, your
17 attention is directed to the references listed on the attached Form PTO-1449. The
18 references were cited (1) by the Applicants along with their PCT filing of the above
19 referenced PCT patent application, and (2) by the European Patent Office ("EPO") in
20 an International Search Report mailed to the Applicant's representative on 11
21 February 2005 for PCT Patent Application No. PCT/GB2004/004293, a copy of
22 which is included herewith. Further, a copy of the Written Opinion of the ISA
23 regarding PCT Patent Application No. PCT/GB2004/004293 is included herewith.
24 No admission is made regarding whether the submitted references are prior art.

25
26 Respectfully submitted
27 John V. BADDING, Daniel William HEWAK,
28 and Chung-Che HUANG, assignors to the
29 University of Southampton, all Applicants

Dated: April 10, 2006

By: John S. Reid

John S. Reid
Attorney and agent for Applicants
Reg. No.: 36,369

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IAP914010 IMPACT PTO 10 APR 2005

PTO/SB/08A (08-03)

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Sheet 1 of 4

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Application Number

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First Named Inventor

Art Unit

Examiner Name

BADDING, John V.

Attorney Docket Number S003-P05

U. S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	FOREIGN PATENT DOCUMENTS		Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Foreign Patent Document	Publication Date MM-DD-YYYY		
	3	JP60108341	06-13-1985	Olympus Optical CO	
	4	JP60108326	06-13-1985	Olympus Optical CO	
	5	JP6122523	05-06-1994	Nippon Telegraph & Telephone	
	6	EP0843186A1	05-20-1998	Northern Telecom Ltd	✓
	7	WO-A-9808120	02-26-1998	Pirelli Cavi E Sistemi SPA	✓
	8	WO-A-9914168	03-25-1999	Hoya Corporation	

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Attorney Docket Number **SO03-P05**

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FOREIGN PATENT DOCUMENTS

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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	9	WO-A-0068718	11-16-2000	Corning Incorporated		✓
	10	GB2304978A	03-26-1997	University of Southampton		✓

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				First Named Inventor	BADDING, John V.
				Art Unit	
				Examiner Name	
Sheet	3	of	4	Attorney Docket Number	SO03-P05

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	A	K. HIRAO et al, "Active Glasses for Functional Devices", Springer-Verlag, Berlin, Chapter 6, Pages 188-193	✓
	B	PETER J. MELLING, "Alternative Methods of Preparing Chalcogenide Glasses", Glass Division of the American Ceramic Society, 03-30-1984, Pgs 1427 - 29, Volume 63, No. 11 (1984)	✓
	C	TOSHIO KATSUYAMA et al, "Fabrication of High-Purity Chalcogenide Glasses by Chemical Vapor Deposition", 03-01-1986, Pgs 1446-49, J. Appl Phys. 59(5)	✓
	D	ANDREW N. MACINNES et al, "Chemical Vapor Deposition of Cubic Gallium Sulfide Thin Films: A New Metastable Phase", Pgs 11 - 14, Chem. Mater. 1992, 4	✓
	E	STEPHAN SCHULZ et al, "Synthesis of Gallium Chalcogenide Cubanes and Their Use as CVD Precursors for Ga(2) E(3) (E=S, Se)", Pgs 4880-83, 10-29-1996, Organometallics 15 (22)	✓
	F	H. TAWARAYAMA, "Fibre Amplifiers Based on Rare Earth-Doped Chalcogenide", D5.1 Pgs 355-57, March 1998, EMIS Datareviews Series, No 22	✓
	G	T. SCHWEIZER, "Fibre Lasers Based on Rare Earth-Doped Chalcogenide Glass", D5.2 Pgs 358-61, November 1997, EMIS Datareviews Series, No 22	✓
	H	I. ABDULALIM et al, "High Performance Acousto-Optic Chalcogenide Glass Based On Ga ₂ S ₃ -La ₂ S ₃ Systems", Pgs 1251-54, 1993, J. Non-Crystalline Solids (1993)	✓
	I	CARMEN B. PEDROSO et al, "High Verdet Constant Ga:S:La:O Chalcogenide Glasses for Mageneto-Optical Devices", Pgs 214-19, Feb 1999, Optical Engineering Vol. 38	✓
	J	K. SHIMAKAWA, A. KOLOBOV, S.R. ELLIOT, "Photoinduced Effects and Metastability in Amorphous Semiconductors and Insulators", Pgs 475-588, 1995, Advances in Physics Vol 44 No. 6	✓

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				First Named Inventor	BADDING, John V.
				Art Unit	
				Examiner Name	
Sheet	4	of	4	Attorney Docket Number	SO03-P05

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	K	MARCO PETROVICH et al, "Temperature Dependence of Reversible Photodarkening in Ga:La:S and Ga:La:S:O Glass Fibres", Pgs. 951-52, 07-06-2001, International Congress on Glass Vol 2, Edinburgh, Scotland	✓
	L	D.W. HALL et al, "Nonlinear Optical Susceptibilities of High-Index Glasses", Pgs 1293 - 95, April 1989, Appl. Phys. Lett. 54(14) April 1989	✓
	M	ALI SALIMINIA et al, "First - and Second-Order Bragg Gratings in Single-Mode Planar Waveguides of Chalcogenide Glasses", Pgs 838-42, 1999, J. Lightwave Tech Vol 17, No. 5, May 1999	✓
	N	MASAKI ASOBE et al, "Nonlinear Refractive Index Measurement in Chalcogenide-Glass Fibers by Self-Phase Modulation", Pgs 1153-54, 01-06-1992, Appl Phys Lett 60(10) 9 Mar 1992	✓
	O	B.L. SELEZNEV et al, "Chemical Sensors in Natural Water: Behavioral Features of Chalcogenide Glass Electrodes for Determining Copper, Lead, and Cadmium Ions", Pgs 813-17, 03-24-1995, J. Analytic Chemistry, Vol 51, No. 8 1996	✓
	P	T.A. BIRKS et al, "Four-Port Fiber Frequency Shifter With a Null Taper Coupler", Pgs 1964-66, 03-10-1994, Optics Letters, Vol. 19 No. 23, Dec. 1, 1994	✓
	Q	SEOK HYUN YUN, et al, "All-Fiber Acoustooptic Filter With Low-Polarization Sensitivity and No Frequency Shift, Pgs 461-63, April 1997, IEEE Photonics Technology Letters, Vol 9, No. 4 April 1997	✓
	R	TESTBOURNE LTD, "G3-10008-P-Germanium Sphide, Powder", Supervac Materials, Retrieved from the internet at URL: http://www.supervacmaterials.com/showpart.asp?code_number=G3-10008-P	✓
	S	Ir. R. C. SCHIMMEL, "Glass Technology, Online!", Pages 1-3, XP-002310681, Retrieved from the Internet at http://www.chem.tue.nl/glasstech/GLASSP7.htm	✓
	T	D. Marchese, "Spectroscopic and Thermal Properties of GeS ₂ -based Chalcohalide Glasses", 05-01-1996, Page 1, J. of Modern Optics, Vol 43 No 5. Retrieved online URL: http://taylorandfrancis.metapress.com/contributions.asp	✓

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